Notice of Allowability	Application No.	Applicant(s)	
	10/561,913	TADAKI ET AL.	
	Examiner	Art Unit	
	WALTER B. AUGHENBAUGH	1782	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Amendment filed September 3, 2010*.

2. ☒ The allowed claim(s) is/are *1,3,5,6 and 9*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *20101207*.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other *See Continuation Sheet*.

Continuation of Attachment(s) 9. Other: JP 2003-178729 (foreign priority document).

DETAILED ACTION

Acknowledgement of Applicant's Amendments

1. The amendments made in claims 1, 3, 5 and 6 in the Amendment filed September 3, 2010 have been received and considered by Examiner.

2. New claim 9 has been received and considered by Examiner.

3. Applicant's amendments to the specification in the Amendment filed September 3, 2010 have been received and considered by Examiner.

4. A copy of the certified copy of the foreign priority document JP 2003-178729 is included with this Notice of Allowance.

5. Applicant's insertion of -- ≥ -- between "<t s>" and "30" in claim 1 in the Amendment filed September 3, 2010 is supported, for example, in Table 1 on page 35 of the specification and in the accompanying description regarding the <t s> "condition" on page 38 in subparagraphs 4 and 5, and also throughout the foreign priority document JP 2003-178729. The <t s> "condition" discussed in subparagraphs 4 and 5 is that <t s> (t times s) is not less than 30. Also see subparagraphs 4 and 5 on page 27 of foreign priority document JP 2003-178729.

6. Applicant's insertion of -- ≥ -- between "H" and "0.5" on page 4 of the specification (and in claim 5) in the Amendment filed September 3, 2010 is supported throughout the specification, for example, in the tenth line of paragraph 0050 on page 20, and also throughout the foreign priority document JP 2003-178729.

7. All amendments made to the specification in the Examiner's Amendment are supported in the foreign priority document JP 2003-178729.

8. The term "superior" in line 2 of both independent claims 1 and 5 is deemed to not be indefinite under 35 U.S.C. 112, second paragraph, because the "superior" results (resistance against cracks in the can wall during distribution and resistance against flange cracking) that are claimed are results that are achieved when the claimed conditions are met: the results achieved with a can having properties that fall within the scope of the claimed invention are "superior" to the results achieved with a can having a property or properties that do not fall within the scope of the claimed invention. See, for example, paragraph 0008 on pages 2-3 of Applicant's invention, the discussion in regard to the subject matter of claim 5 in paragraph 0008 on page 3, the last full paragraph on page 11, the last full paragraph on page 12, the paragraph bridging pages 20 and 21, and the discussion in regard to the claimed properties, and the results achieved with them, throughout the specification (and Fig. 2, 3 and 8).

9. Claims 2, 4, 7 and 8 are cancelled because the limitations of these claims are all in the recitation added to claim 1 in the Examiner's Amendment.

10. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR

1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

11. Authorization for the examiner's amendment below was given in a telephone interview with Anne M. Kornbau on December 7, 2010.

12. The application has been amended as follows:

In the abstract:

Line 1, delete "The object of the present invention is to offer".

Line 1, replace "a" with --A--.

Line 8, replace " m" with --μm--

Line 14, insert -- ≥ -- between "<t s>" and "30"

At the end of line 14, add --The thermo-plastic resin layer is a thermo-plastic polyester resin layer having oriented crystals, wherein the heat of fusion of the polyester resin layer is not less than 15 J/g.--.

In the specification:

page 3, eleventh line of paragraph 0008, replace " m" with --μm--

page 4, line 4, insert -- ≥ -- between "<t s>" and "30"

page 8, line 6, replace "mg/ " with --mg/m^2--

page 8, line 7, replace "mg/ " with --mg/m^2--

page 8, fourth line of paragraph 18, replace "mg/ " with --mg/m^2--

page 8, sixth line of paragraph 18, replace "mg/ " with --mg/m^2--

page 8, ninth line of paragraph 18, replace "mg/ " with --mg/m^2--

page 8, tenth line of paragraph 18, replace "mg/ " with --mg/m^2--

page 8, second-to-last line, replace " m" with --μm--

page 10, third line of paragraph 0027, replace " m" with --μm--

page 10, fourth line of paragraph 0027, replace " m" with --μm--

page 10, seventh line of paragraph 0027, replace both instances of " m" with --μm--

page 12, fourth-to-last line, insert -- ≥ -- between "<t s>" and "30"

page 12, third-to-last line, insert -- ≥ -- between "<t s>" and "32"

page 15, third line of paragraph 38, insert -- = -- between "R I" and "((tB" ;

insert -- — -- between "tB" and "tW" in "(tB tW)" ;

insert -- × -- between "tB)" and "100";

page 15, second line of paragraph 40, replace "mg/ " with --mg/m^2--

page 18, ninth line of paragraph 0047, replace "8 to 10" with --8° to 10°--

page 18, twelfth line of paragraph 0047, replace "8 to 10" with --8° to 10°--

page 18, second line from bottom, replace "2" with --2θ--

page 18, second line from bottom, replace "30" with --30°--

page 18, last line, replace "2" with --2°--

page 19, line 8, replace "2" with --2θ--

page 19, line 9, replace "angle2" with --angle 2θ--

page 19, eighth line of paragraph 0049, replace "2 0 degrees" with --2θ = 0 degrees--

page 20, line 4, replace "2" with --2θ--

page 20, line 5, replace "2" with --2θ--

page 20, line 7, replace "2" with --2θ--

page 20, line 8, replace "2" with --2θ--

page 20, line 12, insert -- ± -- between "90" and "30"

page 20, line 12, insert -- ± -- between "270" and "30"

page 20, fourth line of paragraph 0050, insert --crystal plane-- between "(105)" and "at"

page 20, sixth line of paragraph 0050, insert -- ± -- between "90" and "30"

page 20, seventh line of paragraph 0050, insert -- ± -- between "270" and "30"

page 20, ninth line of paragraph 0050, insert -- = -- between "H" and "Y/X"

page 20, sixteenth line of paragraph 0050, insert -- ≥ -- between "H" and "0.5"

page 21, line 5, insert -- ≥ -- between "H" and "0.5"

page 21, eighth line of paragraph 51, replace "mg/ " with --mg/m^2--

page 21, tenth line of paragraph 0051, replace " m" with --μm--

Page 22, fifth line of paragraph 52, replace "mg/ " with --mg/m^2--

Page 22, seventh line of paragraph 0052, replace " m" with --μm--

Page 22, eighth line of paragraph 0052, replace " m" with --μm--

Page 22, sixth line of paragraph 0053, replace " m" with --μm--

Page 22, seventh line of paragraph 0053, replace " m" with --μm--

Page 23, line 1, replace " m" with --μm--

Page 23, line 2, replace " m" with --μm--

Page 23, seventh line of paragraph 0055, replace " m" with --μm--

Page 23, eighth line of paragraph 0055, replace " m" with --μm--

Page 23, sixth line of paragraph 0056, replace " m" with --μm--

Page 23, seventh line of paragraph 0056, replace " m" with --μm--

Page 24, fifth line of paragraph 0057, replace " m" with --μm--

Page 24, sixth line of paragraph 0057, replace " m" with --μm--

Page 24, ninth line of paragraph 0058, replace " m" with --μm--

Page 24, tenth line of paragraph 0058, replace " m" with --μm--

Page 25, line 11, replace " m" with --μm--

Page 25, fourth line of paragraph 0060, replace " m" with --μm--

Page 25, seventh line of paragraph 0061, replace " m" with --μm--

Page 26, line 2, replace " m" with --μm--

Page 26, seventh line of paragraph 0062, replace " m" with --μm--

Page 26, ninth line of paragraph 0062, replace " m" with --μm--

Page 26, seventh line of paragraph 0063, replace " m" with --μm--

Page 26, tenth line of paragraph 0063, replace " m" with --μm--

Page 27, line 4, replace " m" with --μm--

Page 27, line 7, replace " m" with --μm--

Page 27, seventh line of paragraph 0064, replace " m" with --μm--

Page 27, tenth line of paragraph 0064, replace " m" with --μm--

Page 27, thirteenth line of paragraph 0064, replace " m" with --μm--

Page 28, line 5, replace " m" with --μm--

Page 28, line 8, replace " m" with --μm--

Page 28, line 13, replace " m" with --μm--

Page 28, line 16, replace " m" with --μm--

Page 28, fifth line of paragraph 0066, replace " m" with --μm--

Page 28, seventh line of paragraph 0066, replace " m" with --μm--

Page 28, eleventh line of paragraph 0066, replace " m" with --μm--

Page 29, line 6, replace " m" with --μm--

Page 29, fifth line of paragraph 0067, replace " m" with --μm--

Page 29, seventh line of paragraph 0067, replace " m" with --μm--

Page 29, fourteenth line of paragraph 0067, replace " m" with --μm--

Page 29, seventeenth line of paragraph 0067, replace " m" with --μm--

Page 30, fifth line of paragraph 0068, replace " m" with --μm--

Page 30, tenth line of paragraph 0068, replace " m" with --μm--

Page 30, fourth line of paragraph 0069, replace " m" with --μm--

Page 31, line 2, replace " m" with --μm--

Page 31, sixth line of paragraph 0072, replace " m" with --μm--

Page 31, eighth line of paragraph 0072, replace " m" with --μm--

Page 32, fourth line of paragraph 0073, replace " m" with --μm--

Page 32, sixth line of paragraph 0073, replace " m" with --μm--

Page 32, third line of paragraph 0074, replace " m" with --μm--

Page 32, fifth line of paragraph 0074, replace " m" with --μm--

Page 33, seventh line of paragraph 0076, replace " m" with --μm--

Page 33, fourth line of paragraph 0078, replace both instances of " m" with --μm--

Page 38, paragraph 81, subparagraph 4, insert -- ≥ -- between "<t s>" and "30"

Page 38, paragraph 81, subparagraph 5, insert -- ≥ -- between "<t s>" and "30"

In the claims:

In claim 1:

In line 18, replace the period with a semicolon (replace the period with --;--)

add a new line 19 and, in line 19, insert --and said thermo-plastic resin layer is a thermo-plastic polyester resin layer, said polyester resin layer is comprised of oriented crystals, wherein the heat of fusion of said polyester resin layer is not less than 15 J/g--.

Cancel claim 2.

Cancel claim 4.

In claim 6, line 2, replace "claim 2" with --claim 1--.

Cancel claim 7.

Cancel claim 8.

Allowable Subject Matter

13. Claims 1, 3, 5, 6 and 9 are allowed.

Reasons for Allowance

14. The following is an examiner's statement of reasons for allowance:

In regard to independent claim 1, as Applicant argues on pages 11-14 of the Amendment filed September 3, 2010, the prior art of record fails to teach or suggest the claimed can having the claimed structural and compositional limitations, and the claimed combination of properties, including a tensile strength at break of the aluminum plate in the circumferential direction of the can that is 450 MPa or less, a product of a minimum thickness of the side wall and the tensile stress of the side wall in the direction of the height of the can that is 30 or greater, and a heat of fusion of the polyester resin layer that is not less than 15 J/g.

Applicant's Comparative Examples 3 and 7 have heat of fusion values of less than 15 J/g (Table 3, page 37), thus showing that not all metal/polyester laminates that are worked into a can result in a can having a polyester layer having a heat of fusion of 15 J/g or above (thus showing that a heat of fusion of 15 J/g or above is not an inherent property of polyester layers of all

metal/polyester laminates that are worked (processed) into a can). Comparative Examples 3 and 7 are described on pages 32 and 33 of the specification. Comparative Examples 3 and 7 explain that the process of forming the plate (laminate) into a can is the process of Example 2, which is on page 22.

Additionally, as Applicant argues on pages 11-12 of the Amendment filed September 3, 2010, Nakamaki et al. (USPN 6,099,924) do not teach that the heat of fusion of the polyester resin layer is not less than 15 J/g because conversion of the units of the heat of fusion value of 9200 J/mol taught by Nakamaki et al. to J/g using a typical molecular weight of PET such as 60,000 would result in a heat of fusion value much lower than 15 J/g : (9200 J/mol) * (1 mol / 60,000 g) = 0.153 J/g. While not all polyesters have a molecular weight of 60,000 (60,000 is one possible molecular weight value for the polyester), a PET having a molecular weight of 613.3 or less would have a heat of fusion of 15 J/g or more ((9200 J/mol) * (1 mol / 613.3 g) = 15 J/g; however, in line with Applicant's argument, one of ordinary skill in the art would not have had any guidance, motivation or reasonable expectation of success to have selected a PET having a molecular weight of as low as 613.3 or less (to set a maximum molecular weight of 613.3) for use as the PET of the can of Nakamaki et al., or to have processed the can during formation of the can such that the heat of fusion of the polyester layer of the final product is a minimum of 15 J/g.

In regard to independent claim 5, as Applicant argues on pages 11-12 of the Amendment filed September 3, 2010, the prior art of record fails to teach or suggest the claimed can having the claimed structural and compositional limitations, and the claimed combination of properties,

including an H value (representing axial orientation degree) of greater than or equal to 0.5 and a heat of fusion of the polyester resin layer that is not less than 15 J/g.

The claimed heat of fusion is discussed above in regard to claim 1.

The discussion in regard to Comparative Examples 3 and 7 in regard to heat of fusion also applies to H: the H values for Comparative Examples 3 and 7 are less than 0.5, thus showing that an H value of 0.5 or above is not an inherent property of polyester layers of all metal/polyester laminates that are worked (processed) into a can.

The degree of molecular orientation (H) is defined on page 20 of the specification (with Examiner's Amendments to page 20 based on foreign priority document JP 2003-178729), which refers to Fig. 7 of Applicant's specification (note area shaded in under curve at 90 ± 30 and 270 ± 30 [eventhough ± 30 degrees is not specifically identified in Fig. 7, the shaded-in area appears to be ± 30 degrees along the X axis of the graph]). Also see page 18 of foreign priority document JP 2003-178729 ("± 30" after 90 and 270; fourth to last line of page 18).

Additonally, as discussed above in regard to claim 1, one of ordinary skill in the art would not have had any guidance, motivation or reasonable expectation of success to have selected a PET having a molecular weight of as low as 613.3 or less (to set a maximum molecular weight of 613.3) for use as the PET of the can of Nakamaki et al., or to have processed the can during formation of the can such that the heat of fusion of the polyester layer of the final product is a minimum of 15 J/g, or to have processed the can during formation of the can such that the value of the H parameter of the polyester layer of the final product is a minimum of 0.5.

Examiner notes that the language of claim 5 requires that the resin having the claimed properties is present on the side wall of the can, because the axial orientation degree (line 6) is

the degree of orientation in the direction of the height of the can (line 7). Any coating (polyester layer) on the bottom or top of the can would have a degree of orientation in the direction of the height of the can (axial orientation degree) of 0 because the coating (layer) on the bottom or top of the can would be oriented perpendicular to the axial direction of the can, which does not fall within the claim requirement of an axial orientation degree of at least 0.5.

Applicant's Comparative Example 8 has heat of fusion values greater than 15 J/g (35.0 and 31.2 J/g; Table 3, page 37) and H values of less than 0.5, thus showing that not all metal/polyester laminates that are worked into a can result in a can having a polyester layer having both a heat of fusion of 15 J/g or above and an H value of 0.5 or above (thus showing that the combination of properties of a heat of fusion of 15 J/g or above and an H value of 0.5 or above is not an inherent combination of properties of polyester layers of all metal/polyester laminates that are worked (processed) into a can). Comparative Example 8 is described on pages 33 and 34 of the specification. Comparative Example 8 explains that the process of forming the plate (laminate) into a can is the process of Example 2, which is on page 22.

15. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is (571) 272-1488. The examiner can normally be reached on Monday-Thursday from 9:00am to 7:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Walter B Aughenbaugh /

Primary Examiner, Art Unit 1782

01/13/11